

# Pressure Ulcers

A **pressure ulcer** is an injury to the skin as a result of constant pressure due to impaired mobility. The pressure results in reduced blood flow and eventually causes cell death, skin breakdown, and the development of an open wound. Pressure ulcers can occur in persons who are wheelchair-bound or bed-bound, sometimes even after a short time (2 to 6 hours). If the conditions leading to the pressure sore are not rapidly corrected, the localized skin damage will spread to deeper tissue layers affecting muscle, tendon, and bone. Common sites include the **sacrum** (tailbone), back, buttocks, heels, back of the head, and elbows. If not adequately treated, open ulcers can become a source of pain, disability, and infection. The August 23/30, 2006, issue of JAMA includes an article about prevention of pressure ulcers.

## STAGES OF SKIN BREAKDOWN

Proper staging of the wound will help determine the extent of medical care and treatment.

- Stage 1** Skin may appear reddened, like a bruise. The integrity of the skin remains intact—there are no breaks or tears, but the area is at high risk of further breakdown. It is crucial that the area is identified promptly, since with proper treatment these sores will heal within 60 days.
- Stage 2** Skin breaks open, wears away, and forms an ulcer.
- Stage 3** The sore worsens and extends beneath the skin surface, forming a small crater. There may be no pain at this stage due to nerve damage. The risks of tissue death and infection are high.
- Stage 4** Pressure sores progress, with extensive damage to deeper tissues (muscles, tendons, and bones). Serious complications, such as **osteomyelitis** (infection of the bone) or **sepsis** (infection carried through the blood) can occur.

## PREVENTION AND TREATMENT OF PRESSURE ULCERS

Prevention of pressure ulcers is key because treatment can be difficult. Prevention plans require the skin to be kept clean and moisturized, frequent careful changing of body position (with proper lifting, not rubbing across surfaces), use of special mattresses or supports, management of other contributing illnesses, and implementation of a healthy diet. Relieving or reducing the pressure on the area is essential. Once an ulcer appears, additional treatment options can include:

- Local ulcer care, including maintaining proper moisture balance and use of anti-bacterial dressings
- **Debridement** (removing dead tissue)
- Keeping unaffected tissue around the pressure ulcer clean and lightly moisturized
- Surgical intervention to provide muscle flaps and skin grafts for some patients

Sources: National Institutes of Health, National Pressure Ulcer Advisory Board, Association for the Advancement of Wound Care, American Academy of Family Physicians

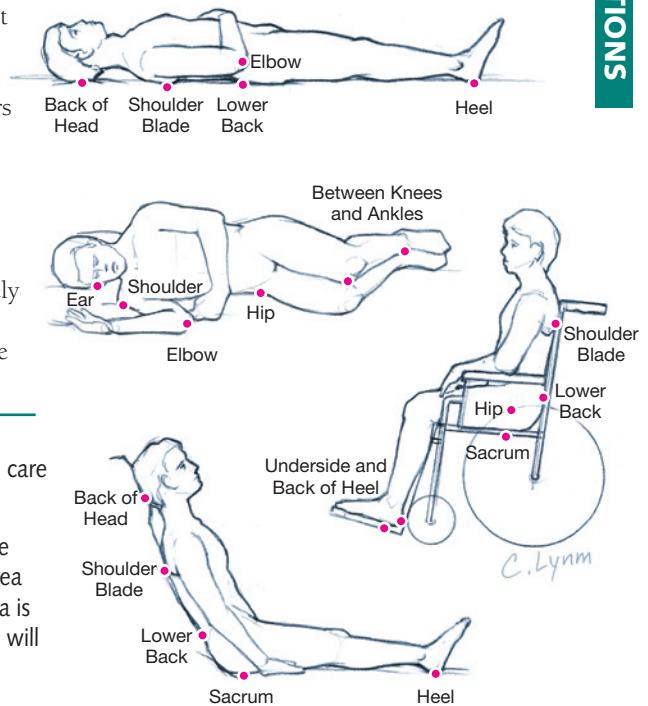
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Common Locations of Pressure Ulcers



## FOR MORE INFORMATION

- National Institutes of Health  
[www.nih.gov](http://www.nih.gov)
- National Pressure Ulcer Advisory Panel  
[www.npuap.org](http://www.npuap.org)
- Association for the Advancement of Wound Care  
[www.aawcone.org/patientresources.shtml](http://www.aawcone.org/patientresources.shtml)

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at [www.jama.com](http://www.jama.com). Many are available in English and Spanish. A previous Patient Page on pressure ulcers was published in the January 8, 2003, issue.

